

REMARKS

Claims 1-9, as amended are pending in this application. In this Response, Applicants have amended certain claims. In particular, Applicants have amended claim 1 to clarify that the present invention prepares a list of tables that are related to returning the set of results but that are not directly referred to by the SQL statement.

In light of the Office Action, Applicants believe these amendments serve a useful clarification purpose, independent of patentability. Accordingly, Applicants respectfully submit that the claim amendments do not limit the range of any permissible equivalents. As no new matter has been added, Applicants respectfully request entry of the amendments at this time.

THE REJECTIONS UNDER 35 U.S.C. § 102

At pages 3-7 of the Office Action, the Examiner rejected claims 1-9 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,640,221 to Levine *et al.* ("Levine"). Applicants submit that Levine does not teach the present invention for at least the reasons that follow.

Levine relates to SQL queries and statements in relational databases. *See* Col. 1, lines 8-11. SQL statements that include more than one join operation have two types of result sets: (i) a final result set; and (ii) an intermediate result set. *See* Col. 1, lines 56-58. The final result set is the final table that is generated from the tables being joined after all the join operations are executed. *See* Col. 1, lines 58-60. The intermediate result set is the intermediate table that is generated from just two of the tables (or one table and another intermediate result set) being joined in one of the join operations. *See* Col. 1, lines 60-64. Levine seeks to allow the manipulation of intermediate results sets by providing a system and method for configuring, sequencing, and viewing joins in a SQL query. *See* Abstract.

In contrast, the present invention relates to a computer implemented method of preventing the execution of unnecessary joins between tables in a database. *See* Amended Claim 1. The method includes presenting a SQL statement to a database. *Id.* The SQL statement has a scope that extends to a set of tables in the database and returns a set of results from the database. *Id.* As shown above in amended claim 1, one embodiment of the present invention includes the step of preparing a list of tables that are related to the set of results but that are not directly referred to by the SQL statement. *Id.*

Levine, however, does not teach, or even suggest, this feature of the present invention. Rather, Levine teaches the creation of a list of tables that are referred to by the SQL statement. *See* Col. 4, lines 11-16. In other words, Levine discloses the creation of a list that shows which tables, referred to by the SQL statement, are related. *Id.* Levine is completely silent with regard to tables that are not referred to by SQL statements. In the Office Action, the Examiner cites specific instances in which it is contended that Levine discloses a list of tables that are within the scope of the SQL statement but are not referred to by the SQL statement. Each of the cited portions of Levine is discussed in turn.

The Examiner first cites column 4, lines 1-10, in support of his contention. In this section, Levine discloses an aspect of the invention that allows joins in a database management system to be configured. Specifically, Levine allows a plurality of tables from a relational database to be selected. Then, relationships between these selected tables may be set, and a sequenced listing of the selected tables is displayed. An intermediate result set that has two or more of the selected tables is selected, and several joint types for the intermediate results set are displayed. One of the several join types can be selected independently from the relationships. This section of Levine, however, refers to the building of an SQL statement, and thus it does not teach or suggest tables that are within the scope of an SQL statement but not directly referred to by it.

Indeed, the second section cited by the Examiner (col. 6, lines 13-46) elaborates on the first section, and confirms Applicants interpretation of Levine. That is, Levine teaches “visually building an SQL SELECT statement.” Col. 6, line 14. The query tab 18A discussed in the second section cited by the Examiner is explicitly described as displaying “the additional windows 20, 22, 24 for visually building an SQL statement by forming relationships between a plurality of tables from the relational database.” Col. 5, lines 61-65 (emphasis added). Further, Levine states that “by selecting several tables 30A, 30B, 30C, the user of the tool 10 can create a complex SELECT statement including multiple tables.” Col. 6, lines 39-41.

Levine also discloses a sequencing algorithm, the discussion of which the Examiner also cites. Col. 13, line 43 - Col. 14, line 9. The sequencing algorithm disclosed by Levine “ensures that the tables are properly ordered using the rule that each successive table in the join should have a relationship with a table that has already been specified.” Col. 13, lines 1-4. “The sequencer is preferably executed in order to create a default ordering that generates valid SQL.” Col. 13, lines 4-7 (emphasis added). Thus, the sequencing algorithm is also used to build a correct SQL query.

Logic dictates that this disclosure does not support the Examiner's contention that Levine discloses a list of tables that are within the scope of the SQL statement but are not directly referred to by the SQL statement, since in the section of Levine cited by the Examiner no SQL statement has even been generated.

Finally, the Examiner cited FIG. 2 of Levine in support of his contentions. FIG. 2 is a graphical user interface of an advanced viewer. Levine states that the advanced viewer is provided to allow the ordering or sequencing of tables in an SQL query. Col. 7, lines 51-53. The advanced joins viewer enables the graphical re-sequencing of the table order and thus the reconfiguring of the intermediate result sets that are generated by a query. Col. 8, lines 1-5. This step also, however, takes place during the building of the SQL query, and allows the query to be generated as desired without having to build a new query from scratch. Col. 7, lines 62-65.

Again, one embodiment of the present invention is concerned with preparing a list of tables that are related to returning the set of results, but that are not directly referred to by the SQL statement. Tables that must be accessed in order to return the set of results of the SQL statement are then removed from the list. In this manner, the joins involving tables remaining on the list may be prevented. It is worth noting that the Examiner cites the exact same sections of Levine in support of the contention that Levine discloses the "removing" step of claim 1 of the present invention. Since the cited sections of Levine do not disclose the "preparing" step, it also cannot disclose the "removing" step of claim 1.

In sum, Levine does not teach or suggest the preparation of the list, the removing of tables, or the prevention of the execution of joins involving tables remaining in the list. Because Levine does not teach each and every element of amended claim 1, Applicants submit that the Examiner's § 102 rejections have been overcome. Accordingly, reconsideration and allowance of the pending claims is respectfully requested.

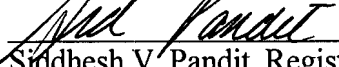
CONCLUSION

All claims are believed to be in condition for allowance. If the Examiner believes that the present amendments and remarks still do not resolve all of the issues regarding patentability of the pending claims, Applicants invite the Examiner to contact the undersigned attorneys to discuss any remaining issues.

A Petition for Extension of Time is submitted herewith extending the time for response two months to and including May 21, 2007. No other fees are believed to be due at this time. Should any fee be required, however, please charge such fee to Bingham McCutchen LLP Deposit Account No. 50-4047, Order No. 19111.0126.

Respectfully submitted,
BINGHAM MCCUTCHEN LLP

Dated: May 21, 2007

By: 
Siddhesh V. Pandit, Registration No. 58,572
BINGHAM MCCUTCHEN LLP
2020 K Street, NW
Washington, D.C. 20006
(202) 373-6513 Telephone
(202) 373-6440 Facsimile